Index — Volume 4

Article Index

March 1990

Reviews

Separation processes
J.F. Richardson 2-7

Selection of reactive solvent for pollution abatement of NO_x
K.R. Jethani, N.J. Suchak and J.B. Joshi 8-28

Papers

Membranes

Fabrication of hollow fibre gas separation membranes
P.S. Puri 29-36

Theory/Modelling

Improved Kent-Eisenberg model for predicting CO_2 solubilities in aqueous diethanolamine (DEA) solutions
A. Chakma and A. Meisen 37-40

Determination of concentration dependent diffusion coefficient matrix inside porous sorbent particles
L.K. Filippov, M. Bülow and I.V. Filippova 41-49

Non-linear isothermal packed bed adsorbers: comparison of Peclet and cell numbers
M.M. Hassan, A.I. Fatehi and K.F. Loughlin 50-57

Development/Design

Design of a packed column for absorption of carbon dioxide in DEA promoted hot K_2CO_3 solution
D. Phaneswara Rao 58-61

June 1990

Papers

Membranes

Correlation aspects of the selective gas permeabilities of polymeric materials and membranes
V. Teplyakov and P. Meares 66-74

Membrane/cryogenic hybrid scheme for argon production from air
R. Agrawal, S.R. Auvil, J.S. Choe and D.W. Woodward 75-80

Membrane gas separation with permeate purging
K. Li, D.R. Acharya and R. Hughes 81-86

Measurement of helium and carbon dioxide permeability through polyamidoimide films
K.D. Petrenko, L.I. Zamulina, A.V. Pedosenko and V.P. Privalko 87-90

Purification

Microbial treatment of sour gases for the removal and oxidation of hydrogen sulphide
K.L. Sublette 91-96

Separation

Axial pressure gradients during the pressurization and depressurization steps of a PSA gas separation cycle
J. Hart, M.J. Battrum and W.J. Thomas 97-102

Theory/Modelling

Simulation of activated carbon adsorbers used in gas plants
M.R. Islam and A. Chakma 103-108

Development/Design

Thermodynamics — guideline for the development of distillation column arrangements
G. Kaibel, E. Blass and J. Köhler 109-114

September 1990

Papers

Thermodynamics

Knowledge of thermodynamic properties for natural gas processing
H. Knapp 123-136

Membranes

Separation of a gas mixture through a polymer membrane metallized with palladium
P.V. Mercea, D. Silipas and V. Mecea 137-140

Adsorption

Air separation by pressure swing adsorption
D.M. Ruthven and S. Farooq 141-148

Adsorption and desorption of gaseous sorbates on a bidispersed particle with Freundlich isotherm. III. Contribution of surface diffusion to the sorption dynamics of sulphur dioxide on activated carbon
P.G. Gray and D.D. Do 149-157

Theory/Modelling

Application of Volterra integral equations to the modelling of the sorption kinetics of multi-component mixtures in porous media. I. Fundamentals
A. Micke and M. Bülow 158-164

Application of Volterra integral equations to the modelling of the sorption kinetics of multi-component mixtures in porous media. II. Elimination of apparatus effects
A. Micke and M. Bülow 165-170

Mathematical modelling of gas purification with getter-based purifiers
R. Carli, V. Ragaini, F. Doni and B. Ferrario 171-176

December 1990

Papers

Membranes

Gas permeability of wet cation exchange membranes
C. Fabiani, R. Taghil and G. Scibona 182-184

Targetting membranes for gas separation
K.E. Porter, A.B. Hinchliffe and J. Pardoe 185-189

Adsorption

Adsorption of hydrogen sulphide on molecular sieves. No enrichment in the presence of carbon dioxide
W. Lutz, M. Suckow and M. Büllow 190-196

Purification

Removal of carbon dioxide from breathing gas mixtures using a hollow fibre permeator
K. Li, D.R. Acharya and R. Hughes 197-202

Design/Development

Copper oxide modified carbon molecular sieves for selective oxygen removal
P.K. Sharma and P.K. Seshan 203-207

Theory/Modelling

Henry characteristics for finite adsorption on single adsorbent pellets
S.E. Scholl and A.B. Mersmann 208-214

Simultaneous multiphase isothermal/isenthalpic flash and stability calculations for reacting/non-reacting systems
Anup K. Gupta, P. Raj Bishnoi and Nicholas Kalogerakis 215-222

Modelling of adsorption separation of gas mixtures with allowance made for the thermal effects accompanying adsorption. V. Specific patterns of adsorption separation of one substance from a gas mixture in the adiabatic case
L.K. Filippov 223-231

Subject Index

Absorption 8, 58, 123, 171
Activated carbon 149
Activated beds 103
Adsorption 103, 149, 190, 208, 223
Affinity separations 2
Air separation 75, 141

Bidispersed sorbent 149
Binary mixtures 41

Carbon dioxide 87
CO_2 removal 81, 197
CO_2 solubilities 37
Cryogenics 75

Depressurization 97
Design 109
Diethanolamine 37, 58
Diffusion coefficients 41
Diffusivity 66
Distillation 2, 109

Economic evaluation 185

Fabrication methods 29

Gas separation 137, 185
Gas permeability 182
Getters 171

Helium 87
Henry characteristics 208
Hollow fibres 29, 197
H_2S removal 190
Hydrogen sulphide 91

Immobilized liquid membranes 000
Ion exchange membranes 182

Membranes 2, 29, 75, 81, 87, 171, 182, 185, 197
Metallized polymers 137
Model equations 223
Models 37, 41, 103, 141
Molecular sieves 190, 203

Natural gas 123
NO_x 8

Oxygen removal 203

Packed bed adsorber 50
Packed columns 58
Palladium 137
Peclet numbers 50
Pellets 208
Permeate purging 81, 197
Phase equilibria 123
Pollution abatement 8
Polymeric materials 66
Porous media 158, 165
Pressurization 97
PSA 97, 141

Sorption kinetics 158, 165
Sour gas 91

Thermodynamics 109
Thermal diffusion 223
Thiobacillus dentitrificans 91

Volterra integral equations 158, 165

Zeolites 50

Author Index

Acharya, D.R. 81, 197
Agrawal, R. 75
Auvil, S.R. 75

Battrum, M.J. 97
Bishnoi, P.J. 215
Blass, E. 109
Bülow, M. 41, 158, 165, 190

Carli, R. 171
Chakma, A. 37, 103
Choe, J.S. 75

Do, D.D. 149
Doni, F. 171

Fabiani, C. 182
Farooq, S. 141
Fatehi, A.I. 50
Ferrario, B. 171
Filippov, L.K. 41, 223
Filippova, I.V. 41

Gray, P.G. 149
Gupta, A.K. 215

Hart, J. 97
Hassan, M.M. 50
Hinchliffe, A.B. 185
Hughes, R. 81, 197

Islam, M.R. 103

Jehtani, K.R. 8
Joshi, J.B. 8

Kaibel, G. 109
Kalogerakis, N. 215
Knapp, H. 123
Kohler, J. 109

Li, K. 81, 197
Loughlin, K.F. 50
Lutz, W. 190

Meares, P. 66
Mecea, V. 137
Meisen, A. 37
Mercea, P.V. 137
Mersmann, A.B. 208
Micke, A. 158, 165

Pardoe, J. 185
Pedosenko, A.V. 87
Petrenko, K.D. 87
Phaneswara Rao, D. 58
Porter, K.E. 185
Privalko, V.P. 87
Puri, P.S. 29

Ragaini, V. 171
Richardson, J.F. 2
Ruthven, D.M. 141

Scholl, S.E. 208
Scibona, G. 182
Seshan, P.K. 203
Sharma, P.K. 203
Silipas, D. 137
Sublette, K.L. 91
Suchak, N.J. 8
Suckow, M. 190

Teghil, R. 182
Teplyakov, V. 66
Thomas, W.J. 97

Woodward, D.W. 75

Zamulina, L.I. 87